NEW YORK STATE MECHANIC.

Under the Direction of the New York State Mechanic Association.

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ARTS AND SCIENCES.

ARCHITECTURE AND ARCHITECTS.

No. II.

It would be a difficult matter to give the history of the origin and progress of the art of building among the early inhabitants of the earth. The most remarkable buildings and cities are all that have been noticed by early historians, and these not unfrequently in a manner calculated either to give wrong impressions, or leave the matter in much doubt and perplexity.

Pollio M. Vitruvius, an architect who flourished in the time of Julius Cæsar and Augustus, and who filled the place of military engineer under one of the emperors, is the oldest architectural writer whose works have been handed down to the present times. His work was discovered in manuscript by Poggio in the 15th century, and has been published in the French, English, Italian, and in some other languages.

"Anciently," says this writer, "men lived in the woods, and inhabited caves; but in time, taking example from birds building nests, they made themselves huts." In this manner, he traces the progress of the art from the cave to the stately edifice, with a minuteness that indicates great familiarity with the subject. Modern writers have, in general, adopted his views as correct, and have given them at length in their works, to which those who have a curiosity on the subject are respectfully referred.

Notwithstanding the great consideration due to the opinions of this early and distinguished writer, from his well known talents and near proximity to these early times, it nevertheless seems obvious upon reflection, that the ancients, like the moderns, provided themselves with the shelter and protection required, by the application of the materials they could command, the knowledge they possessed to apply them to their use, and the means they could bestow upon them, modified by the manners, habits, and customs of the people.

Changes and varieties must have existed with them, as well as with succeeding ages up to our own times, and which will no doubt continue through times yet to come. Indeed, at the present time, some live in caves, some in huts, some in tents, and some in hollow trunks of trees, and some may be found who have no habitations whatever. They accommodate themselves to the circumstances that surround them, no material differences exist between the ancients and moderns in these respects. It is useless then to attribute to them one style of building in preference to another, in the absence of all positive knowledge of their peculiar state and condition. We may conclude their first efforts in whatever way directed, like other people in a state of infancy, in a rational point of view, were rude and simple, and underwent improvements as the subject became better understood, and their means increased.

We know scarcely anything of the buildings of the antediluvians. It is probable that they made but little progress in the arts, spending most of their time in luxurious sports and pleasures. We are informed, however, that a city was built and tents invented; what style, materials, or peculiar workmanship was bestowed upon them, is left to conjecture.

Tradition says they cultivated the arts and sciences, and built cities possessing both magnitude and beauty. Berosus, a very ancient historian, corroborates these traditional accounts, at least so far as relates to their knowledge of the arts and sciences, and their progress in building. They are represented also as constructing two pillars, the one of brick and the other of stone, on which their several inventions were inscribed, for the benefit of posterity. Josephus says the stone pillar was standing in his time, in the land of Syriæ, supposed to be Upper Egypt.

These pillars, if ever erected, exhibit the earliest specimens of monumental architecture; and show, moreover, the art of stone cutting, and brick making, to have been known in these early times.

Notwithstanding this historical and traditional evidence in their favor, their claims to a knowledge in the art of building, as well as in other arts and sciences, has been strongly doubted, at least it is believed to have been at so low an ebb as to be scarcely worthy of notice; and these doubts seem to gain strength so as almost to amount to evidence, from the fact that none of their improvements survived the deluge. Indeed, it would seem that if their improvements consisted of the metals and stone and brick, as in more modern times, though their edifices were thrown down, the various fragments would have been discovered in subsequent times; also, that if the stone pillar withstood the flood, some of their edifices, if substantially constructed, would have done the same, and would have been objects worthy the notice of the early historians.

Even those who contend that the art of building was well understood by them, make no mention that any of their works withstood the action of the deluge, except their reference to the stone pillar, which in all probability is a mistake of Josephus.

The only piece of atchitecture connecting the antediluvian with the diluvian world is the ark, built by Noah for the preservation of himself and family, and such animals as Jehovah thought proper to have preserved. This is the first piece of naval architecture recorded in history, and of no mean construction. It was five hundred and forty seven feet long, ninety-one feet two inches wide, and fifty-four feet eight inches high, containing three stories, and perforated for the requisite complement of doors and windows. It is supposed to have been built of cedar. Some authors make the dimensions somewhat less; and some add a fourth story. The reader is referred to the Bible for a minute description.

No sooner had the flood subsided, and man allowed to go forth from the ark, than we see another species of architecture springing into existence; the sacred and monumental combined. Noah erects an altar for the worship of his Creator and preserver; and, though Adam, Cain, and Abel, may have had altars, that erected by Noah is the first on record. There is a tradition that this altar was built on the same spot on which that built by Adam and used by Cain and Abel formerly occupied; of this, however, there is no positive certainty.

Not long after the events referred to, through the energy and activity of man, we find buildings and cities of great magnitude and splendor rising in every direction; some of which have been described by historians with considerable minuteness; in regard to others we are left in entire ignorance, except merely as to their existence. Discrepancies also exist in their descriptions, which are not easily reconciled, both as regards the buildings and their founders. Among them Babel, Babylon, Nineveh, and some others, hold a conspicuous rank. We shall endeavor to describe them, the persons who built them, and the objects for which they were built, with as much accuracy as circumstances will permit, in our future numbers. The reader always bearing in mind that where every thing is left in so much doubt and confusion, perfect accuracy cannot be attained nor be expected.

R.

MECHANIC ASSOCIATIONS.

In a former page (p. 13) will be found an allusion to the Massachusetts Charitable Mechanic Association, one of the best institutions of the kind in the country. We intended before this again to have called attention to it, esteeming it, as we do, a model which may be of great service in the formation of societies elsewhere. We have this week laid aside some of our usual articles to make room for the following address delivered before the above named association by Mr. J. T. Austin. It will be found worthy of perusal.

ADDRESS.

Society, in the progress of civilization, is broken into classes of men of more or less relative influence; and these classes are composed of individuals, no two of whom bear the same exact relation to the whole community.

The sublime conception of the natural equality of man, consecrated by philanthrophy and freedom, and itself the sustaining pillar of both, does not indicate an actual or even possible uniformity in the condition of life.

There is no equality in the faculties of men; no equality in corporeal strength; no equality in genius, talents or intellectual powers of any kind. The moral principle runs through every degree of sensibility, till it sinks to the point of perpetual congelation.—Education, disposition, health, opportunity, conduct and consequently character, the great artificer, of human fortune, or at any rate of human happiness, are displayed in every possible variety. On the race-course of human life there is difference in the start and the speed, and of course at every point on the field. What is called accident, because it is difficult to find a cause, or trace its operation, determines to a great degree the position of the individual or its consequences. A power unseen and inscrutable regulates the unaccountable vicissitude, as if to demonstrate, that in the social as in the natural world,

"All nature's difference keeps all nature's peace."

Such are the elements of the social system in every association of men, in every period of human history.

What are its objects? Wealth, honors, fame cannot be equally distributed. Their very character depends on their comparative exclusiveness. What to any man would be the value of property, if all men were equally rich? Nothing. Poverty and wealth are but comparative terms; and an exact equality of condition in the whole society,—if it were possible for a moment to conceive of it,—would confound the business of life. No man could sell, no man could buy, no man would labor. Industry would be without a motive, and exertion without a reward. Multiply this wealth as you please; let it be gathered upon the sea-shore, as if every beach was the sand of Pactolus; there would be but one blank and sterile waste in an uncultivated world; and the glittering grief of actual poverty in its caverns of gold.

What are the honors of life? If they mean any thing, they mean that he who wears them is better than his neighbor. They are the tributes of the world's benefactors; acknowledgments of the existence and the exertion of some superior faculty or power of body or of mind.

Fame, that prolongs life even in this world beyond the confines of the grave; existence in the admiration of mankind; life in other's breath; the desire of it, the noble mind's distinguishing perfection, the inspirer of great thoughts, of gallant actions, patriot

sacrifice, devoted philanthropy; what is it but that tribute of esteem, regard, admiration from their fellow-men, which places Franklin, Arkwright, Watt, Fulton, and their kindred spirits, on an elevation above the rest of the world. Distinction is the prize of life, and courted only because in its great lottery there are so many blank. But in all games of chance or skill, if one wins another loses. Success cannot be universal, and some must be disappointed. Disappointment begets envy, and envy complaint.—There is no such dissatisfaction in the distribution of the common benefactions of Providence. There is never any complaint that a man breathes too much air or drinks in too much light. When blessings are to be had for the asking, the possession of them creates no jealousy. It is individual exertion and the consequences of it, that seem to make distinctions in life personal affairs, and to cause on one side an unhallowed pride, offensive and contemptible, and on the other an unreasonable hostility, equally criminal. Neither exertion nor the success of it, should generate these feelings.

By a law of human nature, which, like gravitation in the natural world, keeps society in its determinate order, motives are held out for individual effort, and peculiar benefits are promised to successful competitors. The operation of these motives, and the fulfilment of these promises produce that inequality of outward condition, which is inseparable from the formation of civilized society. If a seeming chance has any thing to do with the result, the circumstances are more complicated and inexplicable. To change this order of nature, to alter the diversified condition of human life; to bring its hills and valleys into one uniform plane, by levelling upward or downward; or to irradiate its whole surface with the same sun-light of fortune, is a task as gigantic, and probably as useless, as to equalize the temperature of the zones, or reform the geological structure of the globe.

It is impossible not to perceive in that arrangement which throws mankind into distinct classes, the same beauty of design which marks every operation of the Supreme Intelligence. We trace the products of the natural world from the humble spire of grass, to bush, vine or tree in all the magnificence of its foliage; from the lowly flower, that "wastes its sweetness on the desert air," to the golden fruit that hangs in the gardens of our modern Hesperides. All unite in one voice of harmony and praise. All contribute to the perfection of the great whole. It is the same in the world of human life. Classes exist in society also. Each class has its own part to perform in the general concert. The profound researches of the Philosopher, the comprehensive policy of the Statesman, the illimitable enterprise of the Merchant, the contributions of professional men to health, order, and religion, are concerted parts of one grand harmony; while the great majority of our fellow-beings, the immense mass of men in one mighty association of intelligent Labor, resemble the

> "Great ocean, strongest of creation's sons;
> Unconquerable, unreposed, untired,
> That rolls the deep, profound, ETERNAL MASS
> OF NATURE'S ANTHEM, and makes music, such
> As pleased the ear of God."

Distinctions arising from a natural order of things, or from the acquired character of individuals in a state of society, where the general good forms the leading object of all political arrangement, are not subjects of complaint. They enter intimately into that order, by which "one star differeth from another star in glory." What should be done, and all that can be done, is to preserve the relations of individuals in society from those artificial contrivances, which in all ages of the world, with too much success, have set up false standards of honor, distinction and glory; have sacrificed the many to the few; have retarded individual progress and repressed exertion; have subjected industry and virtue to the influence of family and fortune; and broken the elastic spirit of freedom by the imposition of unjustifiable power.

Such imposition has extensively operated in the establishment of an hereditary right of power, aristocratic privileges of birth, perpetuation of property in particular families, arrangement of castes, and more than all, in the power of making war, which by some strange perversity of human fortune has not belonged to the people whose blood and treasure are expended in its operations, but to some arbitrary ruler, for whose ambition or pleasure they are wasted. War has been the great enemy of the natural rights of man.

> "There the shout
> Of battle, the barbarian yell, the bray
> Of dissonant instruments, the clang of arms,
> The shriek of agony, the groan of death,
> In one wild uproar and continuous din
> Shake the still air."

All this in its excess, and in proportion to its prodigality of excess, is victory, and victory, in the insane imagination of a ruined world, in the climax of glory.

But war, whether is victory or defeat, degrades and subjugates the mass of the people.

> "Kings it makes Gods, and meaner creatures kings."

It multiplies tyrants and ruins men. It might be supposed that the arts of civil life, and especially the mechanic arts, or some of them, would flourish in a state of war. Undoubtedly they do; but the men and the horses of the camp are about upon a par. The artisan is used, not respected. From its rank luxuriance, a crop of heroes spring up, who consume every green thing in the quiet days of peace. The Mechanic may indeed become a soldier, and acquire as he often has done, distinguished honor in the field. By doing so he changes his character. He leaves his proper employment, which is to build up the community, and becomes the artificer of ruin.

War,—as a substitute in a nation for that principle of self-preservation which, in an individual, is the first law of nature, and of that personal honor, without which existence is not a blessing, and as a means of preserving among a people, a high love of country predominating over a love of life,—is not indeed an unmitigated evil, but it widens and makes permanent the artificial distinctions of society, strengthens the claims of power, degrades the laboring classes, and treats human beings as mere food for powder in the general arrangement of a campaign of glory.

But what the positive provisions of a law or government have failed to accomplish in marking out the arbitrary distinctions of classes, has been carried to a great extent by an erroneous and delusive public opinion.

The Providence of God, which can regard nothing as personal but character, assigns to each individual his peculiar condition in the family of mankind, and establishes his measure of duty and his ultimate reward, according to his conduct in a position where a seeming fatality has placed him. But the world is full of artificial distinctions, produced by its own false judgment. It degrades one man, or one class of men, by false and irrational opinions, by perversion of natural right, by unjust estimates of human action. It often adopts the very errors in practice, which it has forbidden by law; establishes an aristocracy of wealth, where it has prohibited the nobility of birth; allows an exclusiveness of pretension, where it abolishes the claim of right; and assigns the honors and rewards of life by some theory of excellence, which is from time to time modified according to the caprice of the age.

It would be difficult to explain, on any rational principle, how this theory has been constructed, during a great part of the history of our race. It seems to have rested principally on two considerations, REVERENCE FOR POWER, AND CONTEMPT FOR LABOR; reverence for power over mankind, no matter by what means it was acquired; and contempt for labor performed in their service, no matter how useful might be its products to the community.

A sentiment of this kind, in its full force, is the characteristic of a barbarous people; but with modifications of no very considerable importance, it outlived the ruder ages of antiquity, sustained by a class that everywhere arrogated exclusive superiority; and conceded by the multitude, unconscious of its dignity or its strength.

It was natural, perhaps, that in the earlier formation of society, personal prowess or heroic courage should be the source of personal honor, as being the most obvious qualification for the security of a defenceless people; and we do not therefore wonder that the opinion of that age assigned to the fabled Hercules a place next to the Gods. But it was after the imposing magnificence of Roman story,—its arts, its arms, its philosophy, its fame, but indeed in the period of its decline and approaching fall, that a Thracian peasant, by his skill in wrestling and the foot-race, made himself master of the Roman World.

In periods, which by a delusive light, have been considered the most splendid in history, the mechanic arts were, by an epithet of intended humiliation, termed the servile arts; and the exercise of them confined chiefly,—as now they are among the North American Indians,—to women and slaves. When the accommodation of a luxurious people demanded some skill beyond that which these classes could exercise, the artisan was numbered among nominal freemen, but indeed in public estimation, and even in his own, was little elevated above the domestic animals with whom he labored.

We open the records of a past age to learn the labors of our race. A false philosophy directs the opinions they commonly inspire. We read with astonishment of a Chinese wall traversing high mountains and deep valleys, and throwing its arches over wide rivers, for a space of fifteen hundred miles.—We are told of the great power by which this tremendous effort of human labor was commanded, as if the control of the millions who accomplished it was the proper subject by positive provisions in the political organization of society, or by an overpowering influence of public sentiment equally tyrannical.

(To be continued.)

ATLANTIC AND PACIFIC CANAL.

In the year 1835 the special attention of our Government was called to the subject by the new Republic of Central America. We were proffered by means of treaty an equal participation in the advantages to be derived by the proposed work. A charge d'affairs was appointed by our Government with special instructions to investigate with care the facilities which the routes offered, but no report was ever made. In 1826 a memorial was presented to Congress by a New York company, praying for aid from the Government to construct the proposed work, and the matter we believe was favorably entertained by the House of Representatives, but there being no definite action upon it, the scheme totally failed. In 1830, the Government of Central America made a contract with a society of the Netherlands, under very favorable auspices, but owing to some difficulties which soon after occurred between Holland and Belgium, it was finally abandoned. In 1835 a resolution passed Congress, requesting the President to consider the expediency of opening negotiations with Governments more immediately concerned, in order to secure by treaty the privilege to individuals or companies of constructing the work, and permitting all nations the free use of it, on the payment of reasonable tolls. A special agent was appointed by General Jackson to proceed thither and carefully examine the contemplated routes of communication, both at the isthmus of Panama and at Nicaragua Lake. This agent examined the former route and reported that a ship canal was impracticable at that point; but, unfortunately, the latter route was not examined.—Much as has been said and written, and the many speculations which have been indulged respecting the practicability and cost of a canal over this route, we believe that only one satisfactory survey has ever been made. This was made some three or four years since, by a Mr. Bailey, a half pay officer in the British Navy, who was employed by the Government of Central America. In consequence of the dissolution of the Government, Mr. Bailey was never paid for his labor, and the result was never published, until Mr. Stephens communicated it in his admirable work of travels in Central America, lately issued. Mr. Stephens personally examined the most important part of the route, and gives many valuable facts connected with the subject, never heretofore published.—From the survey referred to, it appears that the distance from the Pacific ocean to Lake Nicaragua is a fraction less than sixteen miles. The lake is situated 128 feet above the level of the ocean: between is interposed the Palma mountain 615 English feet above the level of the ocean, and 919 feet above the level of the lake. It is proposed to ascend nearly half-way up the mountain by means of locks, and then cut a tunnel through a distance of three miles, and then descend again to the lake. The lake which is ninety-five miles in length and thirty in breadth, has a sufficient depth of water for the largest class of ships, and empties into the Atlantic through the river St. Johns, which is seventy-nine miles from mouth to mouth. This river is navigable at all times for vessels drawing from three to four feet water, and by clearing out obstructions and lockage may be made navigable for ships of any class. The whole length of the route would be about 140 miles. The work is declared to be entirely practicable. The only difficulty of any great magnitude which presents itself, is the very large excavation necessary to admit ships through the tunnel. Tunnels of greater length but less heights are contemplated in some of the works of improvement in this country. Nothing in reality is requisite but funds to comple the work, and these, we are well assured, will be finished at no distant period. The cost is variously estimated at from 20,000,000 to 30,000,000 of dollars. No doubt but laborers can be procured in Central America much cheaper than in the United States, though provisions may be somewhat higher from the scarcity.

The advantages to be derived from this work when completed, must be immense. The distance of China, Japan, and the Indian Archipelago would be

somewhat shortened, and the trade from the United States would be greatly facilitated by the more favorable latitude for winds and currents. The trade to the Pacific would be immeasurably extended.—The infant colony planted at the mouth of the Columbia river west of the Rocky Mountains would increase in population, commerce, and trade; its resources would be developed, and, in the course of time, become a valuable acquisition to our national wealth.

This work would do much to restore peace and tranquility in the distracted country of Central America. In the language of Mr. Stephens, "a great city will grow up in the heart of the country, with streams issuing from it, fertilizing as they roll into the interior; her magnificent mountains and valleys, now weeping in desolation and waste, will smile and be glad. * * New markets will be opened for products of agriculture and manufactures, and the intercourse and communion of numerous and immense bodies of the human race will assimilate and improve the character of nations." Indeed, the whole world is interested in the final completion of the work.—Will not the United States Government see the propriety of some definite and speedy action towards securing the incalculable advantages which will most certainly accrue?—*Xenia Torch Light.*

INVENTIONS, DISCOVERIES, ETC.

MILK.

Kirchoff, a Russian chemist, who discovered the process of converting starch into sugar, has made several experiments on milk, by which it appears that the fluid may be preserved for use for an indefinite time. Fresh milk is slowly evaporated by a very gentle heat till it is reduced to dry powder, which is to be kept perfectly dry in a bottle well stopped, for use. When required, it need only be diluted with a sufficient quantity of water; the mixture will then have all the taste and properties of new milk. This powder must form a valuable addition to a sea stock of provisions.

FOSSIL REMAINS.

Some years ago, in digging a well in Winton, North Carolina, at the depth of 26 feet below the surface of the ground, the stump of a tree, and a quantity of fire coals and brick bats were discovered, supposed to be the remains of a "domestic hearth," or haply the forge of a smithy; but at what period (if the first conjecture is the right one) the last smiling faces and contented hearths were gathered around the spot in jocund glee, or (if the second) when the brawny sinews of the sons of Vulcan wielded the ponderous hammer at the shrine of their sire, for the last time, is the great question for research and debate, with philosophers and geologists. As yet, however, we have heard of no investigation into this interesting mystery. The proprietor of the well has sunk an other, some forty or fifty yards from the first, and in the process of digging, at the depth of 25 feet, the la borers came to large quantities of stumps and roots of trees, and logs of 3 and 4 feet long, embedded in a stratum of swamp and mud, beneath which, to the depth of 6 to 8 feet, was a stratum of blue pipe clay; on digging through which they came to pure white sand, affording an abundant supply of excellent water.

PRESSURE OF WATER.

The following curious experiment is found in the transactions of the French Academy of Sciences and Arts. The experiment was made in 1734, by Philipe d'Archery and the officers of the ship in which they were sailing to the Isle of Bourbon. They took a glass bottle, well corked, and lest there might be some small opening, imperceptible in the cork, they covered it with white wax, and also a coat of tar; over all they bound parchment in a way that appeared to them impossible for the water to penetrate into the bottle; however, having lowered it in the sea to the depth of 130 fathoms, they drew it up, and found it entirely filled with water. The water was found to contain three-fourths less salt than the common sea water.—The weight of a column of 130 fathoms of water had forced the fluid through all the cork and covering; and by this forced filtration had made it fresh or free from a portion of the salt.

NEW STEAM BOAT.

A new steamer was lately launched at Shelburn bay, Vt., the property of the Champlain transportation company, intended to ply between Burlington and St. Albans. Great commendation is bestowed upon its strength and beauty. Her shaft and cranks are of wrought iron, from the shop of Mr. Ward of New York, her boilers were manufactured at Shelburn, by E. Root, and some other parts of her machinery were from Montreal. Her dimensions are, 170 feet long, 22 breadth, 8 depth of hold, 11 feet stroke, 23 feet diameter of paddle wheel. She will commence her trips on the opening of navigation, and will make landings at Port Kent and Plattsburgh.

CENTRIFUGAL GUN.

At the fair in New York city, an invention called the centrifugal gun, attracted much notice. The Express suggests that on the simple principle of the *common sling*, a machine constructed according to the design of the inventor, will, by hand or other power adapted to the weight of the shot, throw with destructive effect a vast number of shot, in a minute. A few engines of that description, propelled by steam, in floating batteries of a suitable form, would protect our harbors and rivers against the combined fleets of Europe; and on land a hundred men in a fort or in the field, could by hand power defend themselves when opposed by as many thousands. If peace will be promoted by improving and multiplying the engines of destruction and defence, this invention must be an important one.

KNITTING LOOM.

A new Knitting Loom is now in operation in Auburn, which the Tocsin says, is pronounced of a superior kind to any other in use. It can knit 40 pairs of socks, or 12 pairs of drawers, in a day. One girl can tend two looms, and perform as much work as nine can at the common hand loom.

PAPER HANGINGS.

The invention of these is ascribed to England. An artist, named Jerome Lanyer, obtained from Charles II. a patent for affixing woollen and silken shreds on linen cloth, &c., for hangings, which, it is stated, preceded and suggested the use of paper for that purpose.

BLASTING ROCKS.

A much cheaper and safer way of breaking up rocks, may in many localities be used, instead of drilling and blowing them with gunpowder. The method referred to has been tried with great success in many instances. It is simply to build a fire with dry wood upon them, and when they are well heated, throw water upon them, which will be as certain to break them as powder. In this way the largest and hardest rock may be reduced to small fragments in a very short time, by the labor of a small boy.

RAILWAY IN RUSSIA.

The St. Petersburg papers to the 2d instant contain some interesting particulars of a projected rail road from Warsaw to Vienna, towards the construction of which the Russian government affords the greatest encouragement, guarantying to the shareholders a minimum of interest of four per cent, permitting duty free the importation of iron rails and machines, and allowing the company to cut down in the imperial forests whatever timber may be required. The crown cedes the ground gratuitously in every case where the rail road passes over crown lands, and in every instance private landowners are said to have shown a readiness to sell the required ground at less than its real value. These advantages, and the remarkably level character of the country, will enable the company to construct the rail road at a comparatively small expense. A portion of the profits is to form a sinking fund, to buy up gradually the shares of the company, in order that the rail road may eventually become public property.

NEW MUSICAL INSTRUMENT.

At the sitting of the Paris Academy of Sciences, Oct. 4, 1841, a new musical instrument was introduced of which the following account is given. Its inventor, M. Isoard, who occupies a very humble position in the working classes, had long devoted his attention to a kind of combination of the effects which would result from the hammer of the piano forte and the bow of the violin, in producing sharply, and then in prolonging, any given note made by the vibration of strings. He had applied in 1835 for a commission of the academy to be named, and to decide upon the merits of his invention; but the affair has been delayed, and almost forgotten. At length justice has been done to the inventor, and some commissioners, who have been appointed, will report upon the instrument. The principle of the invention is this: That the sound is first produced by a hammer, as in the piano forte, striking a string; and then the vibrations of the string are continued with the same intensity for any interval of time, by the admission of a current of air, which produces a similar effect to what the drawing of a violin bow over the string would occasion. The introduction of a bow was first tried, but was found too difficult of application; and the action of air, by an ingenious mechanical contrivance, was then substituted. The effect of the instrument was quite commensurate with the skill of the inventor, the sounds being prolonged *ad libitum*, and giving to notes all the swell and compass of the organ.

A MAMMOTH POWER.

We observe among the proceedings of the British house of commons on the 5th ultimo, the presentation by Mr. Brotherton of a "petition from the Rev. Mr. Norris, a clergyman in Cheshire, praying the house to institute an inquiry into the merits of an invention which gave a mechanical power equal to *one million horses.*" Nothing is stated as to the nature of this extraordinary invention.

PILE DRIVING MACHINE.

A pile-driving machine, imported from America, and called "Brother Jonathan," is now in use near the New Hungerford Market Bridge, England. It is worked by a locomotive engine of ten horse power, and the blow given by the hammer or monkey as it descends, is 600 tons. By this means, two piles of the largest size are driven nearly their whole length into the earth in about eight minutes, or perhaps less; a circular horizontal saw is worked by the engine, which, in a few seconds, cuts the tops of the piles even. The saving of labor by this invention is immense. Similar ones have been in use in the vicinity of Albany for some time.

CROTON WATER WORKS.

The Reservoir for the Croton Water Works, about three miles from the New York City Hall, encloses five acres, and the water will be 36 feet deep. Another larger reservoir, farther from the city, embraces 30 acres, with a depth of 20 feet of water. The Croton Commissioners have been offered $35,000 for the exclusive privilege of taking ice out of them in the winter. The purpose is not merely to obtain a supply for the city, but for shipment. The trade has been so lucrative in Boston, that the New Yorkers are disposed to come in for a share of the profits. The Southern States and the West and East Indies, afford a first rate market. Since the reduction of the price, so that the ice comes within the means of people of moderate fortune, it is no easy matter to supply the demand within the tropics.

ALBANY, SATURDAY, DEC. 25, 1841.

AGENTS are wanted to extend the circulation of this paper throughout the towns and counties of this State, and in the different States of the Union. Application made to the publishers, *post paid*, will be attended to.

Subscriptions will be received by the following persons, to whom money may be paid.

G. H. Tingley, 189 Broadway, New-York.
James M. Edgerton, West Troy.
William Burton, Cohoes.
Jonas B. Gilson, Waterford.
Charles A. Sweet, Lansingburgh.
P. P. Cleveland, Skeneateles.
T. S. Hawks, Buffalo.
Benj. Holt, Little Falls.
Thomas Roach, Utica.

We are making arrangements to have the paper supplied at the counters of the newsmen in all sections of the country, for the accommodation of those who prefer that way of procuring them.

MONEYS.

We have reached that stage on our journey where it is customary for the printer to begin to call lustily for his subscription money, and stir up all hangers back with a long pole. The terms of payment are well understood, and we can proceed on no other. Bills will be presented now immediately, and it is hoped that all will be prepared to pay, as the collector's fees will not pay him for calling twice. We don't mean to be harsh when we say, that those who neglect to *pay*, are the cause of embarassment to the paper they *patronise*, as they baffle the calculations of the printer, and thus are a dead weight upon its prosperity. This is the plainest statement of the case we can make without going into details, and presume it will be intelligible to an "enlightened community."

☞ We hear nothing of the memorial to the legislature; what is the committee about to which it was referred? there is certainly no time to lose.

THE PROTECTIVE SYSTEM.

The question of a "protective tariff," we are inclined to believe, will soon command the attention of our national government and the American people. "Our opinions" were made up years ago on this question; and subsequent events have not contributed to change them. In the doctrine of free trade in the abstract we are firm believers. We believe that if the whole world would adopt the principle of free trade thoroughly and in good faith, so as to strip commerce of the almost innumerable obstacles which now compass it in the shape of duties and restrictions, and leave prices to regulate themselves according to the actual relative value of articles of traffic, it would be far better for all concerned. But we must take things as they are, not as they ought to be. We must regulate our commerce and intercourse with other nations with an eye to their regulations and restrictions. This is the only true *practical* policy. The question immediately then resolves itself into this form: If under certain like and uniform circumstances we are sure of certain results, can we, when a portion of these causes is entirely reversed, expect the same results? Certainly not. Then as long as the principle is not carried out by all, it cannot safely be adopted uniformly by any. We believe, further, that the true end of all government should be, and would be, if a proper state of things existed throughout the world, simply to protect individual rights, the weak against the strong, or, in other words, to produce a simple and perfect equality; but who is there so blind as to maintain, under *existing* circumstances, that such a course could be pursued safely by a single government? For an answer, let every man put the simple question to himself, whether circumstances have not determined his course in nearly every action of importance in his life; and the involuntary answer of the mind will sustain our conclusion, that government should regulate its course, in every matter of general importance, with a just consideration and regard to existing circumstances. The intercourse between nations may be aptly illustrated, and in fact is governed by nearly the same general laws as between individuals. The principle, in its simple form, which should be the "great regulator" in trade, will be evident from the plain example which follows. True the question is stripped of many of the extraneous and unimportant considerations which trammel the question of a protective tariff. We will suppose, for instance, that there are three individuals, one a farmer whose soil is peculiarly adapted to the culture of grain produce; another whose undulating or high land is adapted and devoted to grazing, the raising of sheep; and the third a cloth manufacturer, a mechanic. We will suppose, further, that they are mutually dependent upon each other; that is, this arrangement is most advantageous to all concerned; and the exchange is conducted to the profit of each. As long as this exists, it is the perfection of "free trade." But the grazier becomes, in the course of time, impatient of this sure mode of accumulating wealth; and with a grasping desire of individual emolument, and without a consideration of the results, raises the prices of his wool *one-fourth*. Unable to procure his manufacturing materials elsewhere, the mechanic is, from necessity, constrained to pay the sum demanded. The equilibrium, so to speak, heretofore existing, is at once destroyed, and he must raise the price of his manufactured articles proportionally, or lose perhaps not only his profits, but a portion of that which is absolutely necessary to his support. Now then, as long as the farmer continues to furnish his produce at the former low prices, he must be a loser; but if he raises his prices proportionally, the equilibrium is restored; and as far as these three persons are alone concerned, their intercourse becomes again the same in fact as at first; but with others it is effected. We do not pretend that this case is precisely a parallel one, but as illustrating, *generally*, the principle.

A wholesale trade implies the exchange of commodities; and when that exists, the surplus productions alone of one country are bartered for those of another. We cannot export bread unless we have a sufficiency for our own consumption, without evil results. We cannot maintain a healthy trade with any country unless that country will receive those commodities of which we have a surplus. Now it must be plain, if we admit the surplus productions of a foreign country free of duty, and our staple exports are excluded by restrictions, the balance of trade must be against us, and specie must be exported to meet the demand. If specie is abundant, if there exists a surplus, it becomes an article of export, and the demand may be met without any ill effect; but if there exists a scarcity of specie amongst us, it cannot be spared without the worst results at home. This is evident to every man; and such is the result of the existing laws of trade. Take England, for example; nay, France too. "*They refuse almost every American commodity except cotton, and this they would refuse if they could, and they hope in time to do so.*" The balance of trade is against us in our trade with those countries, and with them it is mostly carried on. This balance is paid in specie, OF WHICH WE HAVE NOT A SUFFICIENCY. Our currency is prostrated for want of a specie basis. Our only hope is, to make these nations take more of our agricultural products, or by a "protective tariff" we must be enabled to buy less from her by enccuraging the productions at home.

The following statement of the principal articles of foreign manufacture imported into the United States, for the year ending September 30, 1840, will show those articles which can be manufactured at home, with a protective tariff, to an amount sufficient to extinguish entirely that "balance" which is yearly sinking us deeper and deeper in a foreign debt.

Articles.	*Am't of imports.*
Woollen manufactures,	$6,345,345
Cotton do.	6,504,484
Silk do.	10,982,191
Lace,	468,425
Carpeting,	338,501
Hats and bonnets,	438,000
Boots and shoes,	71,533
Leather,	473,091
Cabinet ware,	86,275
Soap,	13,850
Manufactures of iron and steel,	7,324,482
" flax and hemp,	5,966,944
" copper, brass, tin, pewter and lead,	362,423
Earthen and stone wares,	2,010,231
Plated, gilt and jappanned do.	166,072
Saddlery,	201,000
Worsted stuff goods,	2,337,338
Watches and parts,	420,959
Glass manufactures,	563,429
Cotton bagging,	310,211
Oil cloths,	33,648
Paper hangings,	76,521
Paper,	76,124
Books,	210,764
Hair cloth,	59,555
Brushes,	33,762
Jewelry,	201,590
Saltpetre,	24,171
Cigars,	869,424
White and red lead,	41,043
Sugar of lead,	11,335
Cordage and twine,	244,911
Corks,	56,186
Total,	$47,378,888
Exports of the above articles,	3,809,526
Consumption in the United States,	$43,569,362

"Most of the manufactures in the above list of imports, it will be observed, come in direct competition with articles made by our own manufacturers and mechanics. More than two-thirds of the above imports might doubtless be advantageously manufactured in this country if we had

adequate protecting duties. About two-thirds of all our imports into the United States consist of luxuries, and manufactured articles which should be made here. Thus many millions are thrown away annually, keeping us always in debt to foreign countries.

THE LABORING CLASSES OF EUROPE.

ENGLAND.

For an American to form a just idea of the true situation of the laboring classes of Europe, is utterly impossible. The accounts that reach us through the public prints, we are assured are not exaggerated. Mr. Lester, in his recent and instructive work entitled the *Glory and Shame of England*, draws a melancholly picture of their wretchedness. Sorrow and disease, poverty and starvation, stare the poor laborer in the face; and he is forced to the dreadful alternative, crime and infamy, or a lingering death. England, claiming to be the freest, most enlightened nation in the world, with all her glory, is degraded; her escutcheon is stained and dark; her soil is wet with the tears of her children! She claims to stand pre-eminent in the ranks of civilization—she boasts of her institutions and laws; yet with her shouts of exultation is mingled the groan of agony! While the sound of revelry is heard in her proud and magnificent palaces, the hunger cry is wringing the heart of the indigent parents, whose utmost toil cannot furnish bread; and while the cannon peals its loud tones for the birth of a royal heir, the babe of the poor mother shivers in its wretched hovel, and with white and trembling lips supplicates for that nourishment it cannot obtain. The catalogue of their miseries enumerated by travellers is truly frightful. Many, under the keen cravings of hunger, make their cry heard in the ears of their fellow men; but many more, in the sullen despair of poverty, hide away in their cellars, where they lie listless and lethargic till death relieves them of their sufferings.

And whence is the cause of all this misery? Whence is it, and why the once "merrie Englande" is so degraded? Let the American laborer answer. But the catalogue is not full; let our readers ponder on the statistics of misery that follow, and thank his God for the blessings that he enjoys, and guard with zealous care the rights of his free nature. We take the following extract from the speech of Mr. Shannon Crawford, member from Rochdale in the British Parliament. It was addressed to Sir Robert Peel, urging the necessity of bringing forward some immediate measure of relief for the working population, and includes the following statement as to the condition of the manufacturing people of the town which he represented:

					s.	d.
" 136	families	lived on,	pr. head	pr. week,	0	6
219	do.	do.	do.	do.	0	10½
508	do.	do.	do.	do.	1	0
1,885	do.	do.	do.	do.	1	6
1,500	do.	do.	do.	do.	1	9
812	do.	do.	do.	do.	2	2

"Total visited, 5,242, five-sixths of whom had hardly a blanket; 85 families were without a blanket; and 47 families slept on chaff beds and wood shavings."

The following facts respecting the condition of the working classes and paupers in England require no comment. They are extracted from the last report of the Register-General. The condition of the working classes in many of the large towns is truly lamentable. At Liverpool, there are 7862 cellars described in the report as "dark, damp, dirty and ill ventilated," in which live 39,300 of the working people; there are also 2270 courts, in which from two to six families reside. In Manchester, of 123,232 working people, 14,960 live in cellars. In Bury, the working classes are so poor off, that in 772 houses, one bed served for four persons; in 207, one bed for five, and in 78, one bed for *six!* In Bristol, 46 per cent of the working classes have but one room for a family, &c. We might multiply examples, but will add one more item from the intelligence received by the latest arrival: "That in one manufacturing district alone, there are 400,000 of her mrjesty's subjects without work, in a state every hour verging nearer starvation, without the remotest prospect of relief."

Again the question may be repeated, with double emphasis, what can be the cause of this horrid state of things? The laws—and the most potent among them, the *corn laws*. "What of liberty," says an American writer, "has the English artizan to boast? He has not even the liberty to labor—the liberty to eat the bread of toil. England is no country of liberty. The slave who sets his foot upon her shore is free—*to starve!*

Such, reader, is the state of the laboring classes of Europe; and dark as is the picture, it is still but in part revealed. We shall pursue the subject in a future number, confident that you will rise from the perusal with a thankful heart, and a fuller appreciation of the blessings enjoyed in this happy land.

BUFFALO MECHANICS MEETING.

We have received, at a very late hour, the proceedings of the Erie county convention at Buffalo, for the purpose of forming a county association, auxiliary to the state association. The association was organized, O. G. Steele elected president; J. Newman and Geo Jones, vice-presidents; C. L. Emerson, recording secretary; Jesse Peck, corresponding secretary; J. W. Beals, R. Skilling, J. Cummings, A. Cooley, T. B. Tilden, directors.

Mr. Jesse Peck, from the committe appointed to collect statistics for the state central committe, reported that in their endeavors to ascertain the amount of articles manufactured in the state prisons and sold in that county, and the injurious effects of such sales upon mechanics, they found it extremely difficult to gather the necessary information with so great a degree of certainty as they could wish. The course of trade is such, that they believe that large amounts of manufactured articles, such as ready made clothing, cutlery, boots and shoes, carpets, combs, tools, saddlery, &c., are first sent to New-York, and sold at auction, and brought to that market. They have, however, ascertained that during the last year, the amount for work done in the state prison and brought direct to that market and sold, are, for cabinet ware, $6,000; saddlery, 2,300; tools, 2,400; carpeting, 15,000; total, $25,700.

The committee believe, however, that the entire amount of ware manufactured in the state prison, and sold in that county, cannot be less than $50,000, and may far exceed that amount. The committee are of opinion that the injury done to the mechanics, by the sales of work manufactured in the state prison, is nearly or quite equal to the amount manufactured.

THE MESSAGE AND THE FIRE.

Every paper we have received for the last two weeks contains the presidents' message, till we are in the possession of several hundred. They are accompanied by the news of the great fire in Washington street, Albany, or the burning of the United States Hotel at Saratoga. The former document fills half the country papers, leaving barely room for the news of the fire, which seems to be thrown in to fill out the column. There is no mistake but what the message *did happen*, but the fires are a *ho-ax*.

SHIP BUILDING AT BATH.

The town of Bath, Maine, with a population of a little over five thousand, has arrived at so great a degree of celebrity in the art of ship building, as almost to defy competition. The list of vessels built there during the present year numbers 31, namely; 9 ships, 8 barks, 4 brigs, 5 schooners, 5 boats. The aggregate amount of their tonnage is 9,000. One of the ships, the Rappahannock, is of 1133 tons burden.

MANUFACTURES IN CINCINNATI.

The following table is given by Mr. Charles Cist, in a work entitled *Cincinnati in* 1841. It is probably nearly accurate; and although one of its items, embracing about one fourth of the amount, does not strictly come under the category, and another is of doubtful signification, it affords data by which to compare its growth and future state.

Manufactures.	*Workmen.*	*Ann. val.*
In Wool, principally or wholly,	1,557	2,222,857
Iron,	1,250	1,728,548
Other Metals,	461	658,040
Leather, entirely or principally,	888	1,068,700
Hair, Bristles, &c.	198	366,400
Cotton, Wool, Linen and Hemp,	359	411,190
Drugs, Paints, Chemicals, &c.	114	458,250
Brick, Earthen Ware, Stone, &c.	301	288,300
Paper,	512	669,600
Provisions,	1,567	5,269,627
Science and the Fine Arts,	139	179,100
Buildings,	1,568	953,267
Miscellaneous,	1,733	3,208,790
Total,	10,647	$17,432,670

NEW YORK CANALS.

The following table exhibits the annual receipts for tolls on the state canals for the twenty-two years they have been in operation. It will be seen that there have been temporary checks at three periods, namely, 1823–29, 1834 and 1837; but that the trade immediately regained its impetus. It is gratifying to be able to calculate with so much certainty upon a sure and increasing revenue from our public works.

Years.	*Tolls rec'd.*	*Loss and gain.*
1820,	$5,437 34	
1821,	14,388 47	gain, $8,951 13
1822,	64,072 40	do 49,683 93
1823,	152,958 33	do 88,885 93
1824,	340,761 07	do 187,802 74
1825,	566,112 97	do 225,351 90
1826,	762,003 60	do 195,890 63
1827,	859,053 48	do 97,044 88
1823,	833,444 65	loss, 20,613 83
1829,	813,137 45	do 25,307 20
1830,	1,056,922 12	gain, 243,784 67
1831,	1,223,801 98	do 166,879 86
1832,	1,229,483 47	do 5,681 49
1833,	1,463,715 22	do 234,231 75
1834,	1,339,799 56	loss, 123,915 66
1835,	1,548,972 39	gain, 209,172 83
1836,	1,614,680 38	do 65,707 99
1837,	1,293 129 80	loss, 321,550 58
1838,	1,588,847 87	gain, 295,718 07
1839,	1,610,382 02	do 21,534 15
1840,	1,775,747 57	do 164,365 55
1841,	2,033,504 27	do 257,756 70

PROTECTIVE TARIFF.

Why do not the mechanics take up the consideration of the Tariff?—*the subject* of discussion of the day. Where are the manufacturers and mechanics, when this subject, which more directly interests them than any other portion of community, is being discussed? as if the agricultural and commercial interests were alone to be consulted. Any person looking at the discussion as now going on would suppose that either the mechanic interest in the matter was nothing, or merely incidental, or else that there was but one side to the question, as regards them.

Let us examine briefly how this interest lies. There is returned by the last census as employed in manufactures and trades in the United States, 791,545, and in mining, 15,203. Much the largest portion of the last, indeed all except a portion of those in coal mines, are furnishing materials for, and are consequent and dependent upon manufactures of some kind. Now let us see where the mechanics are. It appears that there are in the states of Maine, New Hampshire, Massachusetts, Vermont, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, and in the territory of Iowa, 601,897. And in the states of Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Alabama, Mississippi, Louisiana, Tennessee, Missouri, Arkansas, Florida, District of Columbia, &c. there are but 189,648, and from this last may be deducted for western territories not named, 1,814.

From the *complexion* of the above, it appears that the mass of the mechanics and miners are in the thirteen northern and western states, whilst the few are of the southern states, and a large portion of them of course are slave mechanics. Every one is aware of the opposition of the south to a protective Tariff: and why? There are several reasons; and one is every producer wants as extensive a market for his productions as he can get, and he also wants as large a market to select from as possible, that he may buy at the cheapest rates. Hence, whilst England, France, and Germany have a manufacturing population working under a system of government that keeps them as a mass scarce removed from the condition of the slave, working for a bare subsistence, and that of the poorest kind, large portions of them rating as paupers, those countries will be likely to be the cheapest markets in which to buy manufactured goods. And as the prohibition of education to the negroes of the south is an insuperable barrier to their ever being able to compete with the white mechanics elsewhere, there can be no prospect of manufacturers ever being brought to the wants of that portion of the country. Where then would they look for a market, but amongst such as are described in the following, which we clip from the foreign news by the last arrival from England:

"There was no material alleviation of the distress in the manufacturing districts—the contributions from other parts of the kingdom, though apparently liberal, being totally inadequate to meet the emergency of such a general want of productive employment. A faint hope yet seemed to linger with some of the newspapers that the crisis had passed, that the principal causes of depression had ceased to exist, and that business would soon resume its wonted energy and life."

"Thirty-two charges of felony, and one hundred and forty-two charges of drunkenness and disorderly conduct, came before the borough magistrates of Manchester in a single day. This is in some measure the result of the frenzied desperation to which the distresses of the people in the manufacturing towns have driven them."

Added to the grand masses of the south, is the commercial interest, which makes fortunes for those engaged, just in proportion as there is distress and depression where they buy, and less competition where they sell.

Thus we see one reason why those of the south are opposed to protection to the northern manufacturer. Whether it be patriotic or selfish to wish to bring the manufacturing districts of our country into a free competition with countries whose population has been described by the following paragraph, which went the rounds of the papers during the last year, and which I have never seen disputed, I will leave the reader to decide.

"In France, out of a population of 32,000,000, 22 millions have but six cents a day to defray all expenses—food, lodging, raiment and education. England and Ireland are in no better condition."

But how to account for so many doubting ones at the north is not quite so easy. To be sure there is the trading politician, who *cottons* to the south for the sake of stronger political influence; and we see him gravely discussing the question, and finding reasons why the farmers, aye, and even the mechanics themselves, would be benefitted by such a competition.

By what system of faith the northern farmer can be made to believe that the foreign market, for his produce, with the consequent risk and expense of exportation and protection of commerce, with the fluctuations of the foreign markets, and the consequent increase of competition at home, by forcing the mechanic from his shop to the farm, is beyond my comprehension. It seems to need no very extraordinary exercise of argument or logic to show that a home market, made sure by the permanent establishment amongst them of large numbers of manufactories and mechanic shops, supplying in return such articles as are suited to the wants of those about them, without the expense of transportation and commercial profits, would be the better market; but the teeming brain of the politician finds aristocracy, bankruptcies, fluctuations and panic horrors in the very thought of any thing but *free* trade; and hence, every thing that tends to place us beyond the influence and control of foreign monarchical institutions, is anti-democratic and anti-republican, and we are asked to sacrifice our private judgment for the public good. T.

MISCELLANEOUS RECIPES.

We take pleasure in recommending to the mecbanic a little work lately published by A. V. Blake, of New York, called the *Artist's Guide, and Mechanic's Own Book*. It contains a variety of useful matter, which will be found of benefit to every one who makes himself the possessor of it. We have introduced a few articles from its pages, on a subject which was promised in our prospectus.

METHOD OF MAKING BLACK WRITING INK.

In six quarts of water, boil four ounces of logwood in chips, cut very thin across the grain. The boiling may be continued for nearly an hour, adding, from time to time, a little boiling water, to compensate the waste by evaporation. Strain the liquor while hot, suffer it to cool, and make up the quantity equal to five quarts, by the further addition of cold water. To this decoction, put

1 lb. avoirdupois of blue galls, coarsely bruised, or
20 oz. of the best galls, in sorts.
4 oz. of sulphate of iron; calcined to whiteness.
¼ oz. of acetate of copper, previously mixed with the decoction till it forms a smooth paste.
3 oz. of coarse sugar, and
6 oz. of gum-Senegal or Arabic.

These several ingredients may be introduced one after another, contrary to the advice of some, who recommend the gum, &c. to be added when the ink is ready made. The camposition produces the ink usually called Japan ink, from the high gloss it exhibits when written with; and a small phial of it has been sold for 12 cents.

The above ink, though possessing the full proportion of every ingredient known to contribute to the perfection of ink, will not cost more, to those who prepare it for themselves, than the commonest ink which can be bought by retail. The receipt was given to the public by Desormeaux. It answers for copying letters, by transferring from them an impression to a damp sheet of thin, unsized paper, passing through a small rolling press.

When gum is very dear, or when no very high gloss is required, four ounces will be sufficient, with one ounce and a half of sugar.

By using only 12 oz. of galls to 4 oz. of sulphate of iron, uncalcined, omitting the logwood, and acetate of copper, and the sugar, and using only 3 oz. of gum, a good and cheap common ink will be obtained.

Lamp-black has been added to ink, to prevent its color from being destroyed by the action of the oxymuriatic acid. It should be burnt in a closed crucible, to render it less oily. It causes the ink to write much less freely, although it may be useful for particular occasions.

RED INK FOR WRITING.

Boil, over a slow fire, 4 oz. Brazil-wood, in small raspings or chips, in a quart of water, till a third part of the water is evaporated. Add during the boiling, two drams of alum in powder. When the ink is cold, strain it through a fine cloth. Vinegar or stale urine is often used instead of water, In case of using water, I presume a very small quantity of sal-ammoniac would improve this ink.

FIRE AND WATER-PROOF CEMENT.

To half a pint of milk, put an equal quautity of vinegar, in order to curdle it; then separate the curd from the whey, and mix the whey with four or five eggs, beating the whole well together. When it is well mixed, add a little quick lime through a sieve, until it has acquired the consistence of a thick paste. With this cement, broken vessels and cracks of all kinds may be mended. It dries quickly, and resists the action of water, as well as of a considerable degree of fire.

BLACKING.

Put 1 gallon of vinegar into a stone jug, add 1 lb. of ivory black, well pulverized, ½ a lb. of loaf sugar, ½ an oz. of oil of vitriol, and 1 oz. of sweet oil; incorporate the whole by stirring.

This is a blacking of very great repute in different countries, and on which great praise has been very deservedly bestowed. It has decidedly been ascertained, from experience, to be less injurious to the leather than most public blackings; and it certainly produces a fine jet polish, which is rarely equalled, and never yet surpassed.

WATER-PROOF BLACKING.

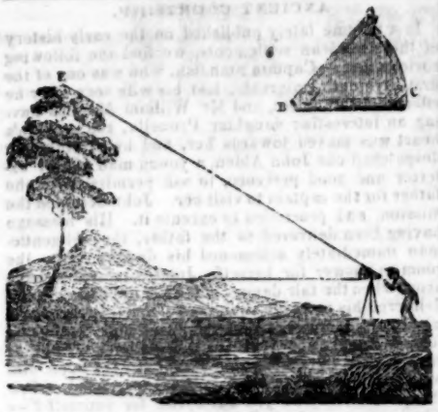
Take one pint of drying oil, two ounces of yellow wax, two ounces spirits of turpentine, and half an ounce of Burgundy pitch; melt them over a slow fire, and thoroughly incorporate them by stirring.

Lay this mixture on new shoes and boots, either in the sun or at some distance from the fire, with a sponge or brush, and repeat the operation as often as they become dry, until they are fully saturated. The shoes and boots thus prepared ought not to be worn until the leather has become perfectly dry and elastic. They will then be found impervious to moisture, and their durability will be increased.

COTTON MANUFACTURE.

In 1805 the whole consumption of cotton by the manufactories in this country, amounted to about *three hundred and sixty thousand pounds*. The annual consumption is now estimated at *one hundred and fifty million pounds!* In 1815 the value of the cotton goods manufactured in this country, was estimated at *twenty-four millions of dollars;* it is now estimated at *sixty millions*. The capital employed in manufacturing by machinery in 1815, was *forty millions of dollars;* the capital now employed is estimated at *one hundred and ten millions*. The value of the exports of cotton goods from the United States in 1826, is stated to have been *one million one hundred thousand dollars;* the value of exports in 1834, was *two million two hundred thousand dollars*. The number of persons employed in the manufacture of cotton in the United States is supposed to be about *one hundred thousand*.

In Lowell, the capital invested in manufactures is *ten millions and a half*. There are 32 cotton mills, running 165,000 spindles, and 5,183 looms; consuming annually 19,256,000 pounds of cotton, and manufacturing 58,263,400 yards of cloth, and employing 6,430 females, and 2,077 male operatives. Of these 8,507 operatives, if our authority be correct, there are not 150 under 15 years of age, and these are allowed, and, indeed, required by law, to attend school three months in a year.



INSTRUMENT FOR TAKING PERPENDICULAR HEIGHTS.

The above is a sketch of a very simple instrument for taking perpendicular heights without any calculation whatever. This certainly is no object to a mathematician, but it may be useful to those who are unacquainted with trigonometry.

A B C is a piece of wood or any other substance whatever. Upon this draw the line B C, near the edge; then draw the line A B, taking care to let the angle A B C be exactly of 45 deg. Then place the three sights; the one marked B is to have a small hole in it, which is to be put exactly over the point of intersection of the two lines A B and B C. The other two may be made the same, or a small frame may be used, as in the figure, with a fine thread stretched across it; these are to be placed in any part of the lines, in the circumference of a circle drawn from the point where they meet.

To use this instrument nothing more is necessary than to find your own height, or that of the stand of your instrument, if it has any; and at the same height upon a wall or tree to fix a mark, as at D; then having seen that mark through the two bottom sights, B C, walk backwards until you see the top of the tree, E, through the other sight, A; then stop and measure the distance between yourself and the tree, which, added to the height of the mark D, will give you the height of the object you wish to find.

By using the instrument horizontally, instead of perpendicularly, the distance of an object, which, on account of a river, &c., cannot be approached, may be measured, provided no great degree of accuracy is required.

SYNOPSIS OF NEWS, ETC.

The railroads are now so far completed, as to form a line of communication by steam between Albany and New York with the exception of 22 miles, and that usually a very good turnpike road. The usual route for the winter will probably be from Albany to West Stockbridge, 30 miles by rail road; thence by stage to North Canaan, 22 miles; thence by the Housatonic rail road to Bridgeport, 74 miles; thence by steam boat to New York, 60 miles; being a distance of but 26 miles further than by the river.

It seems to be determined, however, to take the route by the way of Springfield, Hartford and New-Haven, by rail road, thence to New York by steam boat. The route will be ascomplished in about 30 hours.

On the morning of the 22d inst. the thermometer in this city stood at 2 deg. below zero; on the 23d it began to rain, on the 24th the streets were full of water.

Benjamin *Dollar* has been convicted of stealing in Philadelphia. The police have, in consequence with drawn this *Dollar* from *circulation*, and *deposited* him in jail.

James Franklin Sims, of Green county, Va., is 16 years of age, weighs 231 lbs., and is 6 feet 1 inch in stature.

By the elaborate investigations of a committee, it appears that there are 574 drinking establishments and coffee houses in New Orleans, each paying a tax of $300; and 259 which pay a tax of $100. The gross expense of these 833 establishments for licenses is $198,100; for rents and barkeepers, $332,800; the profits are supposed to average $2,000 each, $,666,000; making a total of more than three millions of dollars. What an overwhelming indignation would be visited upon the city government, should it attempt to raise a tax of this amount for any useful public enterprise! Yet the three millions thus expended, is but the least consideration in the case. The loss of life, of time, of health, of comfort to families, and the long train of evils that follow, compose a mighty sum which cannot be estimated.

They are exhibiting a pig in Ohio, 19 months old, which measures 9 feet in length, 9 feet in circumference, 4 feet in height, and weighs 1,150 pounds. He is of the Byfield and China breed.

Harrison Rogers, a carpenter, and native of the state of Maine, was so badly injured by a fall from a building in New Orleans, on the 4th inst. that he died in a few hours.

In 1790 the whole number of post offices did not exceed 75; in 1840 they numbered 13,488. Then the number of miles of post road was 1,875, now 155,793; then the revenue was $37,936, and the expenditures $32,140; now the revenue is $4,539,265, and the expenditures $4,759,140.

The Catholics have now in the United States 16 dioceses, 1 archbishop, 13 bishops, 3 coadjutors, and 512 churches and chapels, 394 stations, 545 clergymen, 17 ecclesiastical seminaries, 18 colleges, 31 female religious institutions, 49 female academies, 72 charitable institutions, and 8 periodical publications.

About $2000 worth of broadcloths, shoes, &c. were seized on Wednesday week by a custom-house officer on board of the ship Saxon, Capt. Manchester, at Boston, just as she was about to sail for Charleston, S. C. They are supposed to have been smuggled from Canada.

Few persons, we imagine, are aware of the immense quantity of Oysters consumed in some of the large cities. In a suit that was tried in one of the Courts of New York, a few days since, it was shown, during its progress, that one individual, (a Mr. Ruckman) in the year 1836, supplied the city with oysters to the extent in value of *one hundred and fifty thousand dollars!*

The whole amount of tonnage built this year, in the state of Maine, is said to be 35,000—more than has been built in any previous year in that state, or in any other state during the present year.

On Monday last, there were 1708 persons in the Philadelphia almshouse.

Robert Smith, a blacksmith, died recently in London worth $40,000. He was so mean in his habits, he could not *afford* himself the means of subsistence.

A miser in Philadelphia, a chimney sweeper, by trade, lately died worth $100,000. He was so mean and *dirty* his shadow would not follow him for more than a year before his death.

The U. S. Government has lost, since 1780, about $8,500,000 by banks and paper money—the people, probably, as much as $60,000,000.

A meeting was called of the iron manufacturers in the vicinity if New York, at the City Hall on Thursday evening last. Their transactions have not yet come to hand.

The bones of a fossil Lizard seventy feet in length have been found in Clarke County, Alabama.

70,000 Emigrants have arrived in this country within the last six months.

A Galena paper pronounces the reported discovery of a rich copper mine, or indeed any copper mine at all, at Charleston, Iowa, a full blooded humbug.

Four hundred and fifty buildings have been erected in Rochester, N. Y. the present year.

The Saw, Grist, and Shingle Mills belonging to S. B. Locke, Esq. of Greenwood Me. were recently consumed by fire, together with his lathes, tools, and considerable lumber lying near the Mill. Loss estimated at about $2,500—no insurance.

A flannel manufactory occupied by Robert Whitaker, Holliston, Mass., has been destroyed by fire.

It is computed that 4,000,000 are annually earned by the females in Massachusetts employed in the various factories and manufactories of straw hats, stocks, and all the various other articles for which New-England is noted. The number of females so employed is about 25,000 in the woolen factories.

FOREIGN.

On the 36th Nov., a thorougfare was effected in the Thames Tunnel, and made use of, for the first time, by the whole of the directors, and some of the original subscribers, who had assembled on the occasion.

The commercial depression which had prevailed so long in England, had spread over the whole of Europe. In Russia it was felt very severely. Not less than two hundred and fifty failures had taken place in Moscow alone, and nearly an equal number at St. Petersburgh. The emperor is reported to have issued a peremptory ukase, to the effect that those insolvents whose estates did not pay 40 per cent of their debts, should be compelled to join the army as common soldiers.

A large and powerful association is now in progress of formation, having for its object the establishment of an extensive and national system of emigration to the British North American Colonies.

The last arrival from England brings no news of any material alleviation of the distress in the manufacturing districts—the contributions from other parts of the kingdom, though apparently liberal, being totally inadequate to meet the emergency of such a general want of productive employment.

At a meeting held in Nottingham, to adopt measures of relief, at which was stated that 3500 were registered on the parochial books, exclusive of 2000 families, which it had been ascertained were on the verge of starvation.

The misery and destitution in Paisley, so far from suffering any diminution, continued to increase. The Glascow Argus states that there are now 7708 persons in that unhappy town subsisting on charity alone.

The government is still fitting out armaments.

A needle, which was accidently swallowed by Mr. John Bridges, a solicitor, living at Islington, when he was a boy of ten, more than sixty years ago, has made its appearance a little above his ankle. The eye of the needle shows it to be of ancient fabric.

The English house of lords have appropriated £70,000 for the support of the royal stables, and £20,000 for the education of the people.

The male line of the three royal families of England, Tudor, Stuart and Plantagenet, is extinct.

In Hindostan there are three hundred and thirty millions of deities. And the Hindoo is taught that the image which he beholds is absolutely God.

The iron-masters of Scotland have resolved to blow out for six months ore fourth of their furnaces.

An arrangement has been made with Mehemet Ali, by which the British merchants will be enabled to transmit merchandize to and from the East Indies through Egypt. A communication by steam vessels of 1,600 tons and 500 horse power was soon to be opened from Suez, with the whole of the Indian Presidencies and Ceylon—"a new and auspicious fact in Oriental commercial enterprize, and the accomplishment of a splendid effort of British enterprize."

It is stated that the raw ore from which the cast iron ornaments at Berlin are manufactured, does not cost more than 2s. 6d. per cwt., but wrought into earrings, the value becomes £2,734 2s. 6d. yer cwt., and made into shirt buttons, about £3,000 per cwt. It would not be easy to point out any other metal in which art can increase the value of the raw material 50,000 fold.

The retiring members of the recently dismissed English cabinet, are to receive pensions for life to the total amount of 23,000 pounds sterling, or about 135,000 dollars per annum.

The Acadia brought about 15,000 letters. The postage on those for New York amounted to about $1500, Philadelphia $300, Charleston $113, New Orleans $300. There was no other place where the postage amounted to a hundred dollars.—*Sun.*

Queen Victoria's expenses of wine, liquors, ale and beer for her household during the year 1840, is said to have been $50,000.

Upwards of 700 persons were confined in the London prisons for debt, on the 17th ult.

The annual interest on the national debt of Holland amounts to twenty millions of dollars.

AGENTS WANTED.

Several active and enterprising Agents wanted to procure subscribers for two monthly works and this paper. Apply personally at this office, or address *post paid* the publisher of the *Mechanic* at this place.

MISCELLANY.

SONNET—AUTUMN.

Now comes that season of the varied year,
For which the showers of the spring-time fell,
The germ to quicken, and the bud to swell.
The summer 's past, and autumn now is here
With richest treasures, and the golden ear
Twined with the luscious grape and bell-shaped pear,
And blushing peach, and red-cheeked apple fair;
All tell, though now the forest leaf is sere,
That rich abundance crowns the passing year.
Though rich the treasures of our happy clime,
And sweet the pleasures of our autumn time,
Yet, when old sullen Winter binds the earth,
A thousand sweeter pleasures have their birth—
The social converse and the blazing hearth!

NED 'O THE HILLS.

ORIGIN OF MAN.

Affliction one day, as she hark'd to the roar
Of the stormy and straggling billow,
Drew a beautiful form on the sands of the shore,
With the stem of a weeping willow.
Jupiter, struck with the noble plan,
As he roam'd on the verge of the ocean,
Breath'd on the figure, and calling it man,
Endowed it with life and with motion.

A creature so glorious in mind and in frame—
So stamped with each parent impression—
Among them a point of contention became,
Each claiming a right of possession.
"He is mine," said Affliction. "I gave him his birth,
I alone am the cause of creation."
"The materials were furnished by me," answered Earth.
"I gave him," said Jove, "animation."

The gods, all assembled in solemn divan,
After hearing each claimant's petition,
Pronounced a definite sentence on man,
And thus settled his fate's disposition:
"Let Affliction possess her own child, till the woes
Of life cease to harrass and goad it;
After death, give his body to Earth, whence it rose,
And his spirit to HIM who bestow'd it."

MARCH OF INTELLECT.

The old phrase of *whipping the devil round the stump*, has become obsolete. Scholastic men now say, *flagellating the venerable Nickolas round the remnant of a tree.*

In the same manner the expression of *raising the old Harry*, has been refined by the literati of the present day, into *elevating the ancient Henry.*

By a similar improvement of the vulgar tongue, young ladies no longer have a *cramp in the toe*, that excruciating pain being converted into a *muscular contraction of one of the pedal extremities.*

UNITED STATES PENSIONERS.

States.	*Pensioners.*	*States*	*Pensioners.*
New York,	4,089	Georgia,	325
Massachusetts,	2,462	South Carolina,	318
Connecticut,	1,656	Illinois,	195
Maine,	1,409	Alabama,	192
New Hampshire,	1,408	Missouri,	122
Vermont,	1,320	Maryland,	94
Pennsylvania,	1,251	Michigan,	90
Virginia,	993	Mississippi,	63
Tennessee,	895	Arkansas,	24
Kentucky,	886	Florida Ter.	16
Ohio,	875	Dist. Columbia,	15
North Carolina,	609	Louisiana,	12
Rhode Island,	501	Wisconsin Ter.	9
New Jersey,	472	Delaware,	4
Indiana,	330	Iowa Territory,	2
		Total,	20,797

The above statement shows the number of survivors and the residence last year of pensioners, principally soldiers of the revolution. Of the whole number, 8,866, it will be observed, were in the *New England States*, but many enumerated in other states were emigrants from New England.

The number of *regulars* furnished by each of the old thirteen states to the army of the revolution, (besides militia,) from 1775 to 1783 inclusive, was as follows:

	Regulars.		*Regulars.*
Massachusetts,	67,907	New Hampshire,	12,497
Connecticut,	31,939	Rhode Island,	5,908
		Total N. England,	118,251
New York,	17,781	Virginia,	26,678
New Jersey,	10,726	North Carolina,	7,263
Pennsylvania,	25,678	South Carolina,	6,417
Delaware,	2,386	Georgia,	2,679
Maryland,	13,912		
		Total,	231,791

N. Y. Tribune.

SURVIVORS OF BUNKER HILL BATTLE.

The following survivors of Bunker Hill battle have been announced in different papers, and it is probable there are others.

Thomas Moore, Chelsea, Vt.
Samuel Lancaster, Ipswich, Mass.
Jeremiah Ross, do do
John H. Boardman, do do
Abraham Perkins, do do
David How, Haverhill, do
Annis Merrill, Lyman, N. H.
Tilly Mead, Barre, Mass.
Philip Bagley, Newburyport, Mass.
Stephen Read, Wethersfield, Vt.
Andrew Ely, Marlborough, Ulster co., N. Y.
Ebenezer Ely, Conway, N. H.
Enos Reynolds, West Boxford, Mass.
Reuben Kemp, Sterling, Ct.
Capt. Josiah Cleveland, Owego, N. Y.
Sylvanus Conant, Mansfield, Vt
Capt. Jerome Clark, Cherry Valley, N. Y.
Total, 17.

DANGER OF RISING.

It is astonishing how many enemies a person can raise up against himself merely by *raising himself up.* Most of mankind will not allow themselves to be excelled if they can help it; when they are surpassed, they have too much selfishness not to seek revenge in some way or other. Thus frequently, innocence and worth are stabbed most treacherously and meanly, in the very circle where they began to flourish!

A SNAKE IN BED.

A young lady in the Third Municipality, one of the cold nights last week, said her prayers, and read over her lover's last letter, for the twentieth time, warmed her little feet at the cheerful coal fire, and turned down the sheets to get in bed. What was her horror when she discovered a large snake coiled up in just about the middle of the bed!—She screamed, the family got scared, and his snakeship got killed. He was of a harmless species, denominated "house snakes," about three feet long, and beautifully marked with red, yellow and black spots. The cold weather had drawn him from the damp interstices between the laths and bricks; but he should have known better than to have crawled into a beautiful young lady's bed, and she too on the point of marriage with one of our wealthiest merchants. Had it been an old maid now, it wouldn't have been so much matter.—*N. O. Crescent City.*

THE AUTHOR OF JUNIUS.

The Boston Transcript says: "A friend has sent us a letter written by sir Philip Francis, the reputed author of the letters of Junius, to a relation in this country before his departure for Calcutta. It is dated July 17, 1773. Junius's farewell letter to Woodfall is dated Jan. 9, 1773. As to the authenticity of the letter, our friend writes us that he borrowed it of Gov. Francis of Rhode Island, who received it in a straight line from the person addressed. He adds: 'I compared the writing with that of Junius, and there is hardly room to doubt the identity.' The original is now before us, and from a careful comparison with the fac similies of Junixs's writing, we are satisfied that it must be the genuine hand writing of the veritable author of Junius."

SMALL MATTERS.

The nerve of a tooth, not as large as the finest cambric needle, will sometimes drive a strong man to distraction. A musquito can make an elephant absolutely mad. The coral rock which causes a navy to founder, is the work of worms. The warrior that withstood death in a thousand forms may be killed by an insect. The deepest wretchedness often results from a perpetual continuance of petty trials. A chance look from those we love often produces exquisite or unalloyed pleasure.

ANOTHER CALEB QUOTEM.

The following inscription is copied from a door in a village in Dorsetshire, England: "John Stibbins, tailor, shoemaker and astronomer. I also keeps a journeyman to do all kinds of carpenters and blacksmiths works, and to hang bells, &c. Aney ladey or gentleman as bespeaks a coat or pair of breeches may have it on Friday or Saturday without fail. N. B. Being rumoured abroad that I intended leaving off business on account of my being elected church wardin, I hope my friends wont give eare to no such blood-thirsty slanders."

ANCIENT COURTSHIP.

In a volume lately published on the early history of the American settlements, we find the following curious fact:—Captain Standish, who was one of the first Plymouth emigrants, lost his wife soon after he effected a settlement, and Mr. William Mullens having an interesting daughter Priscella, the captain's heart was moved towards her, and he straightway despatched one John Alden, a young man of fair exterior and good presence, to ask permission of the father for the captain to visit her. John accepted the mission, and proceeded to execute it. His message having been delivered to the father, the old gentleman immediately summoned his daughter into the room to answer for herself. John is related to have arose when the fair damsel made her appearance, and delivered his message in the most courteous and prepossessing manner. Miss Mullens, after hesitating for a moment, and blushing, as we have a right to conclude, on the occasion, fixing her eyes upon him with an open and pleasant countenance, said, "Prithee, John, why do you not speak for yourself?"—The messenger blushed, bowed, and took his leave; but with a tell-tale look which the fair Priscella undoubtedly knew how to interpret.

He soon after renewed his visit, and the sequel proved that he did soon after "speak for himself," for they were married in a short time. It is said that Mr. Standish, though a captain, and of course a brave man, never could overlook this treachery of his faithless ambassador. This was probably the first attempt in the infant colony to ape the manners of the old world in respect to courting and marrying by proxy; and the very unfavorable issue of this effort may have been the reason that their progeny have always rejected courtships *per alium*, and in executive language, have adhered to courtships *per se.*

ANECDOTES.

"You treat me worse than you do a haunch of venison," said a clerk to his employer. "How so?" demanded the merchant, in surprise. "The venison is taken into your family," replied the clerk, "I never am." "Sup with the young ladies this evening if you like," said the merchant, "they will eat you up worse than I do venison."

A physician passing by a gravestone maker's, called out to him, "Good morning, Mr. W.; hard at work, I see; you finish your gravestones as far as *In memory of*, and then you wait to see who wants a monument next." "Why yes," replied the old man, resting for a moment on his mallet, "unless somebody is sick and you are doctoring them; then I keep right on!"

A wag observing a couple of gentlemen walking together arm in arm, observed that they were just equal to one highwayman. How so? inquired another. Because, he replied, it is a lawyer and a doctor, your *money* or your *life.*

A fellow putting his head through a tailor's shop window, inquired what o'clock it was by his lapboard. Upon which the tailor lifted up his lapboard and gave him a blow on the head, replying that it had just struck one.

PROSPECTUS
OF THE
NEW YORK STATE MECHANIC,

A weekly paper, devoted to the interests of Mechanics and Manufacturers.

It is proposed to publish at Albany, a weekly paper under the above title, the object of which will be to advocate the rights and privileges of that great portion of community to which it appeals for support, and to disseminate every species of information and useful knowledge adapted to its wants. The topics intended to be discussed, will embrace the useful sciences, whose applicability to the various arts and trades will be illustrated; all new scientific discoveries and mechanical inventions, which will be accompanied by an engraving when important; discussions of public measures and institutions which have a bearing upon mechanical labor; accounts of curious arts and experiments; biographies of eminent mechanics and artists; histories of manufactures and descriptions of manufacturing establishments in different sections of the country; statistics of the resources, products, &c., of manufacturing towns and districts; together with a synopsis of the most important news, and other useful and entertaining matter, from every accessible source. It will be seen that the field proposed is one capable of affording a distinguished publication, and in order to occupy it fully, efficient writers will be enlisted.

Other professions and callings have their publications, which are useful in their spheres, and it is believed that the mechanics of the State of New-York will readily perceive how great a desideratum remains to be supplied at their hands, and cheerfully extend their patronage to an undertaking, in which they have so deep an interest; a work which is intended to minister to the wants of their intellectual and political condition—eschewing the partizan politics of the day, but freely dicussing all questions and measures of political economy.

The *New-York State Mechanic* will be printed on a royal sheet, quarto, in the best style of execution, forming at the end of the year a volume of more than 400 pages of useful matter, worthy of preservation for future reference; and will be afforded at $1.50 per annum in advance, a price which will place it within the reach of the humblest artisan.

J. MUNSELL & Co.
Albany, Oct. 1841. No. 58 State-Street.